STATUS OF THE CLAIMS

Claims 1-16 (Cancelled)

16. (Previously Amended) A method of site-specific downregulation of connexin protein expression for a therapeutic or a cosmetic purpose which comprises administering at least one anti-sense polynucleotide to a connexin protein to a site on or within a patient at which said downregulation is required.

17. (Previously Amended) A method of reducing neuronal cell death which would otherwise result from a neuronal insult to a specific site in the brain, spinal cord or optic nerve of a patient which comprises the step of administering at least one anti-sense polynucleotide to a connexin protein to said site to downregulate expression of a connexin protein at and immediately adjacent said site.

18. (Previously Amended) which said anti-sense polynucleotide is administered to reduce neuronal loss due to physical trauma to the brain, spinal cord or optic nerve.

19. (Previously Amended) A method according to claim 17 in which said anti-sense polynucleotide is administered in a sufficient amount to downregulate expression of said connexin protein for at least 24 hours post-administration.

20. (Previously Amended) A method of promoting wound healing in a patient which comprises the step of administering at least one anti-sense polynucleotide to a connexin protein to said wound to downregulate

expression of a connexin protein at and immediately adjacent the site of said wound.

21. (Original) A method according to claim 20 in which the wound is the result of trauma.

22. (Original) A method according to claim 21 in which the trauma is a burn.

23. (Original) A method according to claim 20 in which the wound is the result of a surgery.

24. (Previously Amended) A method of reducing inflammation as part of treating a wound or a tissue subjected to a physical trauma which comprises the step of administering at least one anti-sense polynucleotide to a connexin protein to, or proximate to, said wound or tissue.

25. (Previously Amended) A method according to claim 24 in which said anti-sense polynucleotide is administered to reduce inflammation due to physical trauma to the brain, spinal cord or optic nerve.

26. (Previously Amended) A method of decreasing scar formation in a patient who has suffered a wound which comprises the step of administering at least one anti-sense polynucleotide to a connexin protein to said wound to downregulate expression of a connexin protein at and immediately adjacent the site of said wound.

27. (Previously Amended) A method of skin rejuvenation or thickening for a cosmetic or therapeutic purpose which comprises the step of administering, once or

repeatedly, at least one anti-sense polynucleotide to a connexin protein to a skin surface.

28. (Previously Amended) A method according to claim 27 wherein said anti-sense polynucleotide is directed to connexin 43 and is administered to regulate epithelial basal cell division and growth.

29. (Previously Amended) A method according to claim 27 wherein said anti-sense polynucleotide is directed to connexin 31.1 and is administered to regulate outer layer keratinisation.

30. (Previously Amended) A method according to claim 27 wherein said anti-sense polynucleotide is in a cream.

Claims 31-42 (Cancelled)

43. (Previously Presented) A method according to claim 16, wherein said anti-sense polynucleotide is an oligodeoxynucleotide.

44. (Previously Presented) A method according to claim 16, wherein said connexin protein is selected from the group consisting of connexin 43, connexin 26, connexin 31.1, connexin 32 and connexin 36.

45. (Previously Presented) A method according to claim 16, wherein said anti-sense polynucleotide is present in a formulation together with a pharmaceutically acceptable carrier or vehicle.

46. (Previously Presented) A methodaccording to claim 45, wherein said formulation is suitable for topical administration.

47. (Previously Presented) A method according to claim 45, wherein said formulation contains polynucleotides to one connexin protein only.

48. (Previously Presented) A method according to claim 45, wherein said formulation contains polynucleotides to more than one connexin protein.

49. (Previously Presented) A method according to claim 48, in which one of the connexin proteins to which polynucleotides are directed is connexin 43.

50. (Previously Presented) A method according to claim 48, which includes polynucleotides directed to at least two of connexin 26, connexin 31.1, connexin 32, connexin 36 and connexin 43.

51. (Previously Presented) A method according to claim 45, wherein the pharmaceutically acceptable carrier or vehicle is, or includes, a gel.

52. (Previously Presented) A method according to claim 51 in which the gel is a nonionic polyoxyethylene-polyoxypropylene copolymer gel.

53. (Previously Presented) A method according to claim 45, wherein the formulation further includes a surfactant or urea to assist with polynucleotide penetration into a cell.